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ABSTRACT

Two studies were done about the selection of specific measures for use in institutional goal translation and evaluation processes; in addition, they provided prototype methodologies for setting objectives. The first, "Institutional Goal Achievement: Measures of Progress" (IGA), suggested by its results that the process of setting goals and measuring progress would benefit from consensus-building techniques, whether in individual institutions, among institutions of one type, or across institutional types. The second, The Higher Education Outcome Measures Identification Study (OMIS), studied and developed procedures for collecting outcomes and associated measures deemed most important to different types and levels of decisionmakers. The procedures of these two studies can be useful in goal translation, and, in addition important insights can be gained about the outcomes information preferences and needs of postsecondary education participants and constituents when the measures are used as research tools. (Author/MSE)

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TRANSLATING GOALS INTO MEASURABLE OBJECTIVES: RESEARCH STUDIES AND PRACTICAL PROCEDURES

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TRANSLATING GOALS INTO MEASURABLE OBJECTIVES: RESEARCH STUDIES AND PRACTICAL PROCEDURES

Introduction

In a recent essay on university goals, Conrad (1974) points out that goals: (1) are standards against which to judge success, (2) provide a source of legitimacy which justify the activities of an organization, (3) define organizational needs and priorities, (4) define production units for "outputs" for the organization, (5) define the organization's clientele, and (6) define the nature of the relationship between the organization and society. He also points out that "in most universities, goals are often implicit, residing in an extended body of collective understandings rather than in explicit statements." He goes on to say, "If university goals are to serve the purposes listed above, they must be identified more precisely."

The goals of specific colleges and universities have traditionally been described in broad, vague, "high sounding," and often internally inconsistent terms. Such a situation did not cause any major problems as long as people fully accepted the intrinsic value of a college education and as long as the demands made on postsecondary education institutions remained relatively stable. However, during the fifties and sixties, postsecondary educational institutions, in particular those in the collegiate sector, came under increasingly severe pressure to grow in size and complexity and to meet the diverse needs, desires, and expectations of many new groups throughout society. In response to these voluminous, diverse demands being made on them, institutions often found themselves trying to become "everything to everybody." In the process, colleges and universities of all types grew increasingly alike; they tended to lose their individual identities as they pursued an ideal typified by the university model.

As a result, the purposes, goals, objectives, and priorities of institutions have not been very distinct, nor very apparent even to students, faculty, and administrators.

It is apparent that the problem of goal-setting becomes one of identifying and clearly stating: (1) what it is the institution is trying to accomplish; (2) whom it is trying to serve; (3) how it intends to accomplish its objectives; and (4) how much and how well it intends to accomplish. Without answers to these questions an institution cannot really specify its purposes and goals sufficiently to meet its internal needs for direction, plus it becomes difficult to stake out its claim to some special place in the larger postsecondary education community. And unless institutions get down to tangible, concrete levels of specificity, it is impossible to really answer these questions. The key to solving the problem of goal-setting is "concreteness" or "specificity." There seems to be widespread recognition of the problem, but limited capability to deal with it. Institutions have found that dealing in the abstract with the development of goals and objectives has proved to be a very frustrating experience: they can often identify and state their goals in general terms but cannot make the crucial leap to translating their goals into objectives in terms specific enough to be effectively acted upon and assessed. Developmental work conducted by NCHEMS at institutions such as South Dakota State University and Kalamazoo Valley Community College concerning the development of institutional and organizational unit goals has further emphasized the need for concrete guidelines and alternative strategies for deciding about goals and especially for translating these general goals into specific objectives.

Translating goals into measurable objectives to be pursued by the institution is the step that gives concrete and specific expression to the institution's purposes. It is also a step that is especially difficult to achieve.

In translating goals into measurable objectives, all of the issues and complexities related to outcomes identification and measurement come into play. Inability to state institutional purposes in specific, measurable terms often hinders, if not precludes, assessing the extent to which goals have been achieved. Moreover, lack of specificity also increases the difficulty of effective communication with institutional constituencies, especially external constituencies from whom pressures for institutional accountability arise.

In translating institutional goals into measurable objectives, a major difficulty is identifying the pieces of evidence that demonstrate progress toward the achievement of the established goals. One factor contributing to this difficulty is that the persons responsible for identifying outcome measures most often "start from scratch." Furthermore, as in the goal-definition process, there is often difficulty in reaching agreement on specific measures because of the variety of interests, perspectives, and expectations.

The purpose of this paper is to describe two studies which researched questions related to selecting specific measures to be used in goal translation and evaluation processes. In addition, these efforts provided prototype methodologies that could be used by institutional personnel to support the objective setting process. These studies were:

- Institutional Goal Achievement: Measures of Progress (Romney, 1976)
- Higher Education Outcome Measures Identification Study (Micek and Arney, 1974).

These studies/and their implications for the goal translation process are discussed in the following pages.

Institutional Goal Achievement (IGA): Measures of Progress

The IGA study was guided by the following purposes:

- Assess the interests of three campus constituencies (faculty, administrators, and trustees) in being involved in institutional goal setting and assessment processes;
- Examine the acceptability of specific goal areas (or planned-outcomes) to these three audiences in six kinds of institutions;
- Assess perceptions as to which goal areas can be measured and how they can be measured, as viewed by trustees, administrators, and faculty;
- Gather information regarding perceptions of appropriateness of specific kinds of information as measures of progress toward the achievement of broadly-stated institutional goals;
- Determine if the appropriateness of the measures of progress toward the achievement of institutional goal areas varies significantly among the three constituent groups;
- Determine if the appropriateness of the measures of progress for different institutional goal areas varies significantly among six types of institutions.

The study population consisted of 1150 faculty, trustees and administrators from 45 colleges and universities throughout the country. These institutions were classified into six major categories, as follows:

- Public Doctoral-Granting Institutions (7)
- Private Doctoral-Granting Institutions (3)
- Public Comprehensive Universities and Colleges (9)
- Private Comprehensive Universities and Colleges (4)
- Liberal Arts Colleges (12)
- Two-Year Colleges and Institutions (10)

Faculty and trustee respondents to the study were chosen randomly whereas administrators were selected based on their specific institutional responsibility. The survey instrument to which these individuals were asked to respond consisted of two principal sections. The first contained demographic and identifying information about the respondent. The second dealt with measures of progress for twenty broadly-stated institutional goal areas. The goal areas were derived from the Institutional Goals Inventory (IGI) developed by and used with permission of the Educational Testing Service (ETS). The IGI consists of several specific goal statements in each of twenty institutional goal areas, thirteen of which are designated as outcome goal areas. The remaining seven are labeled process goal areas by ETS.

Associated with each IGI goal area on the study questionnaire were sets of four to eleven measures of progress or possible items of information to be used to demonstrate progress toward the achievement of the goal area in question. All in all, respondents, in addition to the twenty goal areas, were asked to respond to 125 measures of progress. These measures were developed and contributed by the staffs of NCHEMS, WICHE, and the Higher Education Center of the School of Education at the University of Colorado. In addition, a panel of experts, identified by the author and staff members at NCHEMS, reviewed and supplemented the list of measures.

To complete the questionnaire, respondents were asked to rate the degree to which each goal area should be a goal of his or her institution. Secondly, the respondent was asked to indicate the degree to which each item of information was considered to be an appropriate measure of progress for the goal area.

The study produced a wealth of information, only a small portion of which has been thoroughly examined. A detailed examination of the results and

conclusions obtained thus far are recorded elsewhere (Romney, 1976). Only those results that relate directly to the topic at hand, namely translation of institutional goals into measurable objectives, are reported here.

- Generally, the appropriateness of measures of progress for demonstrating institutional goal achievement did not vary across the faculty, trustees, and administrators. There were only seven instances in which views of the three types of respondents differed significantly. Trustees and administrators differed only with regard to two measures:

  (1) *Scholarly works produced by students and/or former students that are considered suitable for publication* (trustees lower than administrators),

  (2) *Institutional policies and procedures developed to protect the exercise of academic freedom by faculty, students* (trustees lower than administrators).

  Trustees and faculty ratings of appropriateness differed only for one measure, *Institutional policies and procedures developed to protect the exercise of academic freedom by faculty and students* (faculty significantly higher than trustees).

  Administrators and faculty ratings of the appropriateness of measures of progress differed significantly only with regard to five measures:

  (1) *Satisfaction of currently enrolled students or recent graduates with their academic development* (administrators rated this as being more appropriate than did faculty),

  (2) *Student/faculty ratios* (faculty rated this measure higher than did administrators),

  (3) *Amount of release time granted to faculty members for community service* (faculty higher than administrators),

(4) *Availability and use of an institutional information system* (administrator ratings higher than those of faculty members),

(5) *Satisfaction of students and former students with the extent and nature of their educational experience and subsequent employment* (administrators higher than faculty).

- The results suggest that if the following fourteen types of information were collected, progress could be demonstrated toward the achievement of the seven most important goal areas for each of the six institutional types. Moreover, this evidence would be acceptable generally to at least the faculty, administrators, and trustees in each type of institution.

  (1) *Student ability to apply knowledge*

  (2) *Continuing active intellectual involvement of former students other than formal, advanced study*

  (3) *Course offerings and institutional opportunities pertaining to the development of individual goals, values, and personal growth*

  (4) *Students and/or former students expressing concern for human welfare and well being*

  (5) *Employer satisfaction with former student vocational or professional training*

  (6) *Scholarly works produced by graduate students and/or former graduate students considered suitable for publication*

  (7) *Basic research publications or other results of scholarly effort produced by students or faculty members during the past year*

  (8) *Evaluations and perceptions of members of the community regarding the quality of institutional services available to them*

  (9) *Existence of special courses and programs to meet the needs of particular groups of students*

(10) *Institutional policies and procedures developed to protect the exercise of academic freedom by faculty and students*

(11) *Attendance and participation by faculty in the faculty senate or similar body*

(12) *Faculty and staff perceptions and evaluations of internal morale*

(13) *Student and/or faculty attendance at cultural activities sponsored by the institution*

(14) *Impacts of modifications made in courses and programs*

- An examination of the fourteen measures listed above reveals a decided lack of compatibility with measures currently used to provide evidence of productivity. For example, in a study conducted to determine which "outcome measures" of community colleges are collected by state agencies, Kinnison (1975) found that most are required to supply information on the number of students enrolled, full-time equivalent students, and degrees granted. To such a list one could add "grade-point averages" and "student/faculty ratios" as typically collected measures. Yet none of these measures was rated as highly appropriate in this study. In fact, the measures now in use tend to conform more in orientation and substance to those rejected by the participants. This apparent conflict can have some important implications for institutional management and productivity, as well as for statewide control and coordination. If the theme of enumeration survives as the way to provide evidence of accountability, institutional administrators and faculty may begin to operate in accordance with radically different incentive structures. Emphasis on quality and impact would pale in the light of degree production and "body counts." Indeed, it is suspected that most incentives would operate to maximize degree production and body counts.

In such a situation, all participants tend to lose in terms of impact and satisfaction. The measures found to be appropriate pieces of evidence provide an empirically substantiated base for such a change.

- In a different vein, the results of the study suggest some conclusions regarding the development of goals and measures of progress for these goals. Respondents from six types of institutions from all parts of the country were participants in this study. In general, it can be said that consensus was reached across all types of institutions as to the appropriateness of some goal areas and measures of progress within these goal areas. In some cases, consensus regarding goals and their measures was restricted to agreement within particular institutional types. Therefore, it is suggested that the process of selecting institutional goals and appropriate measures of progress can utilize consensus-building techniques and that these techniques are useful within individual institutions, within systems of similar types of institutions, and across a conglomeration of several types of institutions. The number of goals and appropriate measures thought to be appropriate most likely will decrease as the diversity of institutions involved increases. Yet the task of identifying perceptions of common purposes and of how to measure progress toward their achievement seems to be feasible as well as necessary.

Higher Education Outcome Measures Identification Study (OMIS)

The OMIS was initiated primarily to study and develop procedures for collecting outcomes and associated measures deemed most important to different types and levels of decision makers. The objectives of the study were to:

- Learn what outcome information different decision makers need for their decision-making responsibilities;

- Learn what outcome information currently is available to them.
- Identify a high priority list of outcome measures for which data acquisition procedures need to be developed.

OMIS survey questionnaires were sent to 388 randomly selected college administrators (including 97 presidents, 97 chief academic officers, 97 chief student affairs officers and 97 chief fiscal officers) and 125 state-level decision makers (including 75 statewide planners and 50 state legislators).

The overall response rate for the study was 58%. Responses were received from at least one administrator in 95 of the 97 institutions included in the pool. Whereas 235 (or 61%) of the college administrators returned completed OMIS questionnaires, only 64 (or 51%) of the state-level participants responded.

The participants in the study were asked three types of questions. The first question concerned the extent to which they felt they needed information about each of the ten outcome information categories delineated in Section I of the questionnaire (see Micek and Arney, 1974). The second major question dealt with the extent to which each respondent felt the need for each of the specific outcome measures listed in Section II of the questionnaire. The final question pertained to his/her access to or ability to obtain each of the outcome measures presented in Section II. Detailed results of the OMIS project are reported elsewhere (Micek and Arney, 1974). Following are a few excerpts from those findings that are directly related to the goal translation process.

- Three measures in the OMIS effort were given a high "Need To Know" endorsement by all six groups. They were:
  (1) Number of students graduating from the institution after a certain period of time as a percentage of their entering class.

(2) Number and percentage of graduates for the year who transferred from another school.

(3) Number and percentage of students leaving the institution prior to receiving a degree, diploma, or certificate during a particular academic term or year.

In addition, five measures were given a high "Need To Know" endorsement by at least five of the six groups:

(1) Number and percentage of students surveyed who are taking noncredit, independent study, or special courses.

(2) Number of students receiving a degree, diploma, or certificate within a certain time period.

(3) Average amount of time it takes a student to earn a degree, diploma, or certificate.

(4) Student scores on a scale measuring their degree of satisfaction with their progress in achieving their occupational career goals.

(5) Number and percentage of former students (graduates and nongraduates) surveyed who were employed within a certain time period after leaving the institution.

- Interesting similarities and differences occurred among the six respondent groups. With the exception of the chief fiscal administrators group, the top ranked measure for each of the groups was in the outcome area--entitled "Student Educational Career Development." The following identifies some highlights with respect to each of the groups:

(1) Presidents--This group endorsed the widest range of outcome measures. Possibly this is a result of the wide range of decision-making responsibilities encountered by people in this group. Two measures were unique to this group.

(2) Academic Affairs Administrators--This group appears to have the greatest need for measures relating to Student Knowledge and Skills Development, Student Educational Career Development, and the Development of New Knowledge and Art. To some extent, this was to be expected, given the planning and management responsibilities of respondents in this group.

(3) Student Affairs Administrators--Respondents in this group appear to have concentrated on measures concerning Student Educational Career Development, Student Educational Satisfaction, and Student Occupational Career Development, respectively. Of all the groups, this group indicated the greatest need for Educational Satisfaction measures. It is interesting to note that of the five measures unique to this group, four involve student perceptions about their educational progress. This may suggest that Student Affairs Administrators are more receptive to this kind of information.

(4) Budget and Finance Administrators--As expected, respondents in this group favored those measures directly linked to financial data. Further, each of the five measures that were endorsed only by this group concerned the acquisition of financial data.

(5) State-Level Planners--This group of respondents endorsed many of the same measures that the respondents in the four institutional decision-maker groups endorsed concerning Student Educational Career Development. Of all the groups, this group favored the greatest number of measures associated with Student Occupational Career Development.

(6) State Legislators--This group concentrated its major attention on measures associated with Student Knowledge and Skills Development,

Student Educational Career Development, and Student Occupational Career Development.

Implications for Goal Translation

As stated at the outset, goal translation is the process of stating institutional goals in specific, measurable terms; that is, stating them in terms of measurable objectives. This goal translation process can be disaggregated into the following, greatly simplified steps:

1) Identification of the full range of goals for the organization.
2) Selection of those goals that will be most important.
3) Identification of the kinds of information that could be used to assess the degree to which the high priority goals are being accomplished.
4) Selection of the information items (e.g., outcome and environment measures) that will be used to assess levels of goal attainment.
4) Preparation of objectives stated in terms of the information items selected previously as well as the audience for whom they are intended and the minimum performance levels expected.

The reader should recognize that the goal translation process, a very complex exercise indeed, is only partially supported by the study procedures and findings recounted previously. For example:

- Both the IGA and OMIS procedures can be useful to assist decision makers in the goal selection (Step 2) and measure selection (Step 4) procedures outlined previously.
- The questionnaires and results of both studies may serve as resources during the goal and measure identification processes (Steps 1 and 3 respectively). Clearly, however, there are numerous sources of goals and measures that might be referenced. Relying on these two studies would limit the scope of the goal translation exercise.

- Individuals involved in the goal translation process should consider measures of the types preferred by decision makers and postsecondary education participants in the IGA and OMIS studies, i.e., measures of measurable impact and satisfaction.

In conclusion, the authors suspect that not only are the procedures of these two studies useful for addressing portions of the goal translation problem, but also when used in individual organizational units, institutions, systems or other populations as research tools, important insights can be gained about the outcomes information preferences and needs of postsecondary education participants and constituents.

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